## ABSTRACT

A E. coli recombinant plasmid expressing a fusion protein having the human erythropoietin receptor extracellular domain is disclosed. A purified fusion protein produced from such a vector is also disclosed, the fusion protein having a cleavage site suitable for separating the erythropoietin receptor extracellular domain from the remainder of the fusion protein. Antibodies having specific binding affinity for a purified extracellular domain polypeptide are also disclosed. The purified human erythropoietin receptor fragment polypeptide binds erythropoietin. The articles, compositions and methods of the invention are useful for studying ligand binding to erythropoietin receptor and for quantitating the amounts of erythropoietin receptor, as well as for understanding receptor structure and signal transduction.